

We Claim

1. A method for providing a data communication service, which enables a user computer to be connected to an Internet service provider via a network and communication between said user computer and said Internet service provider to be established, said method comprises;

a step of holding a first network address assigned to said user computer from said Internet service provider and translating a second network address sent from said user computer to said first network address; and

a step of establishing communication between said user computer and said Internet service provider.

2. The method for providing a data communication service according to claim 1;

wherein said method further includes:

a step of allowing said network to give said second network address to said user computer;

a step of allowing said network to hold a user ID used to identify said user computer and said second network address so that both items are related to each other;

a step of allowing said network to issue a user authentication request to said Internet service provider; and

a step of allowing said network to hold said first network address assigned to said user computer from said Internet service provider.

3. The method for providing a data communication service according to claim 1;

wherein said user ID, said first network address, and said second network address are held so that they are related to each another.

4. The method for providing a data communication service according to claim 1;

wherein said second network address sent from said user computer is an address described in a network address field in a communication packet.

5. The method for providing a data communication service according to claim 1;

wherein said communication between said user computer and said Internet service provider is established according to said first network address while said communication between said user computer and a server is established according to said second network address.

6. An address translation apparatus connected to plural user computers and plural Internet service providers via a network, said apparatus being used to communicate with an authentication server installed in a network of an Internet service provider to authenticate a user when a connection request is issued from a user computer to said Internet service provider, store a network address assigned to said user computer, translate at least one of source and destination network addresses described in a field in a communication packet, and transfer said translated network address;

wherein a network address assigned to each user computer and a network address assigned to said user computer from an Internet service provider that has received a connection request from said user computer makes a pair and said address translation apparatus holds said pair of network addresses, so that said apparatus, when receiving a packet that describes one of said held paired network addresses, translates one of said held paired network addresses, then transfers said translated network address.

7. A network for connecting a user computer to an Internet service provider;

wherein said network holds user identification information used to identify said user computer, a private

address assigned to said user computer from said network, and a global address assigned to said user computer from said service provider.

8. The network according to claim 7;

wherein said global address is used to access said Internet service provider and said private address is used to access a server in said network.

9. The network according to claim 8;

wherein said private address is translated into said global address to access said Internet service provider.

10. The network according to claim 7;

wherein said network includes:

an address translation gateway provided with a table for holding a set of user identification information used to identify said user computer, a private address assigned to said user computer from said network, and a global address assigned to said user computer from said Internet service provider; and

an access server for requesting said address translation gateway for said private address upon receiving said user identification information and a password from said user computer.